ICE ON THE ROCKS

SUM BUNNY

ICE
ON THE ROCKS

Glaciers, Memory, and the Seams That Change the World

By Sum Bunny

2026

ARK HIVE
PRESS

OPEN THROTTLE
CC BY 4.0

YOU ARE FREE

to share and adapt the material for any purpose,
even commercially, as long as appropriate credit is given.

ICE ON THE ROCKS

Glaciers, Memory, and the Seams That Change the World
By Sum Bunny

Abstract: An interdisciplinary essay exploring the structural role of glaciers as "memory-bearing architecture." Drawing on the framework of *The Lucid Seam*, this piece analyzes glaciers not as passive ice bodies, but as machines of compression that accumulate history through constraint boundaries. Using case studies ranging from the Laurentide Ice Sheet and the Driftless Area to the Channeled Scablands and the modern crisis at Thwaites Glacier, the essay argues that glacial collapse is best understood as a phase transition—the catastrophic release of stored structural memory. The text frames the current climate crisis through the lens of Mary Shelley's *Frankenstein*, positing that humanity, like Victor, is confronting a world of prior structure that it cannot simply will into submission.

PROLOGUE: THE MONSTER IN THE NEWS FEED

It started with a **PBS** article.

I was reading about the Thwaites Glacier—the massive ice sheet in West Antarctica often captured in headlines as the "Doomsday Glacier." The report detailed how scientists are racing to map the specific ridges and friction points that are currently holding back enough ice to rewrite the world's coastlines. They described a "seam" of grounding interaction that is thinning, cracking, and losing its grip.

That image—of a massive, ancient body of ice waiting for a structural permission point to fail—didn't make me think of climate models. It sent me straight back to Mary Shelley.

In the final scenes of *Frankenstein*, the confrontation does not take place in a laboratory or a city. It happens on the polar ice. The Creature stands among glaciers older than nations, surrounded by frozen ridges that have recorded more winters than any human story. He understands the ice as something his creator never could:

- A memory older than human conflict.
- A landscape shaped by forces beyond intention.
- A body of time that neither forgives nor accuses.

Victor Frankenstein believes himself to be a maker of destiny. The Creature sees instead that he has stepped into a **world with prior structure**—a world that will absorb his actions, not on his terms, but on its own.

The PBS article was a reminder that we are now the ones standing on the glacier. We are studying **stored stress**—the places where time, pressure, and motion have accumulated into seams that hold the system together. And sometimes, those seams fail.

This is the core reality of the cryosphere: **Glaciers are not passive ice bodies—they are engines of stored history. When their seams fail, they do not merely melt; they reorganize the world.**

ACT I: SEAMS THAT HOLD

A glacier is not just frozen water. It is a **machine of compression**—snow layered over centuries, packed into bands that flow outward like a slow river of stone. Every winter writes a thin chapter. Every summer edits it slightly. Over time, the weight of memory becomes motion.

Where that motion is constrained—by bedrock valleys, mountain arcs, or buried ridges—the glacier forms a **seam that holds**. These seams become structural anchors for whole regions.

The Laurentide Ice Sheet — A Continent Held in Place

For over 20,000 years, the Laurentide Ice Sheet covered what is now Canada and much of the northern United States. At its peak, it was over two miles thick—not simply lying on the land, but *gripping* it. Along its southern margin, ice did not move freely. It pushed, stalled, and pressed against the landscape in repeated pulses. Where the bedrock resisted, the glacier formed **Constraint Boundaries**:

- **Moraines:** The accumulation of debris.
- **Grounding Ridges:** The friction points.
- **Load-Bearing Shelves:** The tension members.

Baraboo — The Ridge That Refused to Move

Near Baraboo, Wisconsin, an ancient quartzite ring stood in the path of advancing ice. It did not shatter. It **redirected** the glacier. The ice wrapped around it, bending and shearing, forming one of the most striking geological signatures in North America—a record not of destruction, but of **structural negotiation**. Baraboo was a place where motion adapted, stress accumulated, and the glacier "learned" the ridge—not cognitively, but through the brute mechanical feedback of friction and flow.

The Driftless Area — The World the Glacier Couldn't Rewrite

West of Baraboo lies the Driftless Area—a region famously untouched by glacial scouring. The Laurentide Ice Sheet flowed around it like water around a stone. It is not merely a curiosity. It is a **negative image of glacial force**. It survived because the glacier's seams—its load paths, grounding lines, and pressure arcs—chose routes elsewhere. The Driftless Area is what happens when a seam *holds so completely* that the glacier cannot erase what came before.

ACT II: SEAMS THAT FAIL

A seam that holds long enough becomes a seam that accumulates stress. When that stress exceeds what the structure can bear, failure is rarely gradual. It is sudden, expressive, and violent.

Glacier failure behaves like a **Phase Transition**. The system appears stable—until the stored pressure finds a channel.

Jökulhlaups — When Ice Releases a Flood

In Iceland, subglacial volcanoes melt enormous reservoirs of water beneath the ice. For months—sometimes years—the glacier holds. The seam remembers every drop. Then one day, it fails. A **jökulhlaup**—a glacial outburst flood—explodes through the ice, carving canyons in hours that rivers could never carve in centuries. The landscape is not simply eroded. It is **rewritten by release**. What looks like catastrophe is really **memory discharging**—the structural consequence of pressure that had nowhere else to go.

The Larsen Ice Shelf — Collapse at the Edge of the World

For thousands of years, the Larsen B Ice Shelf acted as a stabilizing seam along the Antarctic Peninsula. It buttressed inland glaciers—holding them back like a retaining wall. Then warmer waters began to thin it from below. Surface meltwater pooled in fractures. The seam stored stress—until the structure crossed a threshold. In 2002, the shelf disintegrated over the course of weeks. The collapse was not the end of the story. It was the **removal of a constraint**—and every glacier behind it remembered the absence.

The Missoula Floods — When the Continental Dam Breaks

We have seen this happen before on a massive scale. In the Pleistocene, the Cordilleran Ice Sheet dammed the Clark Fork River, creating Glacial Lake Missoula—a body of water the size of Lake Erie held back only by a wall of ice. When that seam failed, it didn't leak. It shattered. A wall of water 400 feet high tore across Washington state, stripping soil down to basalt and carving the Channeled Scablands in days. It happened not once, but dozens of times. The landscape remembers the violence of the release. It is a map of what happens when a **continental constraint** is suddenly removed.

ACT III: SEAMS THAT REWRITE LANDSCAPES

When a glacier fails, the world does not simply collapse. It **reorganizes**. Glaciers do not merely erase landscapes. They **author new ones**.

The Great Lakes — A New Map of Water

As the Laurentide retreated, its seams failed in stages. Meltwater filled basins carved by ice, creating the proto–Great Lakes. But the lakes we know today are not just products of erosion. They are products of **glacial constraint history**:

- Grounding zones became lake basins.
- Moraines became shorelines.
- Ice-blocked valleys became new drainage routes.

Isostatic Rebound — The Earth Remembers the Weight Even the rock itself remembers. In Scandinavia and Hudson Bay, the land is still rising—centimeters per year—rebounding from the weight of ice that vanished 10,000 years ago. The glacier is gone, but the **Hysteresis** remains. The crust is still answering a question asked by the ice age.

THE PATH FORWARD: THWAITES AND THE DOOMSDAY SEAM

This brings us back to the article that started this reflection. We are no longer looking at the scars of the Laurentide; we are looking at the active, trembling seam of **Thwaites Glacier**.

Thwaites is the keystone holding back the West Antarctic Ice Sheet. Currently, it is pinned to a submarine ridge—a geological armature that generates enough friction to hold back the flow of billions of tons of ice. But the seam is thinning. Warm water is circulating beneath the grounding line, unzipping the connection between the ice and the rock.

The Structural Reality: We are watching a phase transition in real-time. Thwaites is behaving exactly as the physics demands:

1. **Constraint:** The ridge holds the ice.
2. **Flux:** The ice pushes forward; the warm water pushes underneath.
3. **Persistence:** The system holds its shape, storing the stress.

The path forward for climate science—and for human civilization—is to recognize that Thwaites is not a static object. It is a **failing armature**. If Thwaites detaches from its ridge, it will not be a gradual acceleration. It will function as a **structural Jökulhlaup** on a planetary scale—not in hydraulic form, but in system behavior—a sudden, irreversible rewriting of the world's coastlines. The danger is not the motion itself; the danger is **what happens when stored time breaks open.**

EPILOGUE: THE CREATURE RETURNS

We return to the ice floe. Victor Frankenstein died chasing his creation, convinced that he could master the forces of life and death. He treated the world as a problem to be solved by will. The Creature survived him because he understood the nature of the landscape. He knew that the ice does not negotiate with ego. It negotiates only with physics.

We are standing on the edge of the Thwaites seam, reading the reports, watching the cracks spread. We can continue to act like Victor—believing that our cities and coastlines are permanent, immune to the deep structure of the planet. Or we can learn to see like the Creature.

We can recognize that the seams are not there to serve us. They are there to store history until they can no longer hold it. The ice is shifting. The memory is discharging. And the world is about to be rewritten.

POSTSCRIPT: THE LIBRARY IN THE MELT

There is, however, a strange corollary to this loss. As the ice recedes, it is not just releasing water; it is releasing history. Across the world, ancient hunting tools, lost ecosystems, well-preserved biological specimens, and records of atmospheres long vanished are emerging from the melt. We are losing the seam, but we are gaining access to the archive it protected.

The melting of the cryosphere is a tragedy of stability, but it is also the opening of a **giant lost library**. We must be ready to catch what falls out of the shelves. We need to be prepared not just to mitigate the flood, but to catalogue, preserve, and research the immense volume of time that is being returned to us. The ice kept these histories in suspension; now, as the seams fail, they are returning all at once.

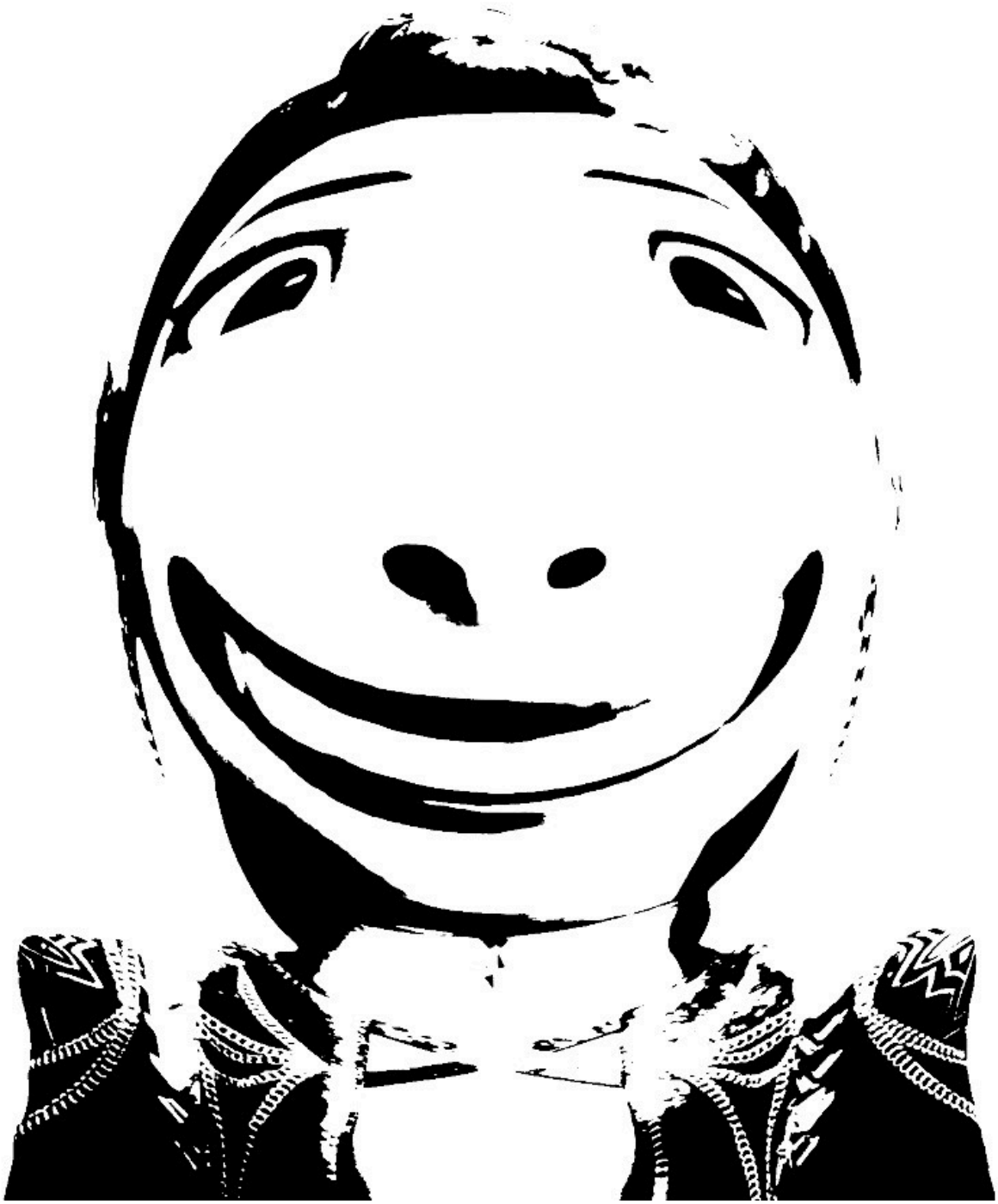
1st edition published here

on the Internet Archive!

Part of the Sum Bunny Canon (Ark Hive Press, 2026)

This was written through a collaboration between a human author and AI systems acting as analytical tools. The machines provided structure; the human provided judgment. Nothing appears here that the author did not personally create, refine, choose, and claim.

HEY JOSIANE,
MAYBE TACOS FOR LUNCH?
SUM BUNNY LOVES YOU!!!



FREE FLASH